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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,056	02/06/2004	Gerold Balling	BALLING	4816

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EXAMINER

SHECHTMAN, SEAN P

ART UNIT PAPER NUMBER

2125

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/774,056	Applicant(s) BALLING, GEROLD	
	Examiner Sean P. Shechtman	Art Unit 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 7, 9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

22

DETAILED ACTION

1. Claims 1-4, 6, 7, 9 and 10 are presented for examination. Claim 1 has been amended.

Claim 10 has been added.

2. Applicant inadvertently forgot to show the deletion of [thin client]. Applicant inadvertently forgot to show the addition of ultrathin client. Any further amendments will be required to meet the guidelines set forth in 37 CFR § 1.121.

Drawings

3. The drawings are objected to under 37 CFR 1.84(h)(5) because Figure 1 show(s) modified forms of construction in the same view. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

Art Unit: 2125

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4, 6, 7, 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said ultrathin client" in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "said ultrathin client" in lines 10-11. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "the bus system" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the bus system" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the bus system" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the control functions" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the control functions" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the machines" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,380,796 to Ostby in view of U.S. Pat. No. 4,943,927 to Yarita.

Referring to claim 1, Ostby teaches a device for controlling *at least one* machine tool *or* production machine (Col. 1, lines 7-10), comprising:

at least one hand-held device located remote from the *at least one* machine tool *or* production machine and producing control signals for controlling operation of the *at least one* machine tool *or* production machine (Col. 1, lines 63-65; Col. 1, lines 37-49);

a front panel controller included in the *at least one* machine tool *or* production machine (Fig. 1, element 26; Fig. 2) for converting the control signals from the *at least one* handheld device into bus telegrams which include data for controlling drive components of the *at least one* machine tool *or* production machine (Fig. 2, element 58, Col. 4, lines 56 – Col. 5, line 5); and

at least one bus system connecting the *at least one* handheld device with the front panel controller to transmit the data and the control signals between the *at least one* handheld device and the front panel controller (Fig. 1, element 14; Col. 4, lines 56- Col. 5, line 5).

Referring to claim 9, Ostby teaches a central electric supply unit that supplies energy to the machines (Col. 13, lines 9-20).

Regarding the term ultrathin client, the examiner respectfully submits that a thin client can be interpreted in at least one way as a client that has the ability to process information independently but relies on a host or server for, for example, applications, data storage, and administration. Thus, the examiner respectfully submits that an ultrathin client can be

Art Unit: 2125

interpreted in at least one way as a client that has less of the ability to process information independently but relies more on a host or server for, for example, applications, data storage, and administration. The examiner respectfully submits while the claims recite the term ultrathin client, the claims, as such, do not require that the ultrathin client process information independently from a host or server and/or rely on a host or servers for anything. For example, a personal computer connected to the internet can be configured as a thin client for an application where the personal computer can process information for the application independently, but also downloads information for the application from a web server. However, a personal computer connected to the internet can also be configured to perform, for example, a word processing application without relying on any information from the web server. Therefore, the examiner finds this term inconsequential to the specific application being claimed, only because the claims, as such, do not require that the ultrathin client process information independently from a host or server and/or rely on a host or servers for anything.

The examiner respectfully submits that the limitation of the ultrathin client lacking built-in intelligence does not require that the ultrathin client lack all types of intelligence.

Ostby teaches all of the limitations set forth above and the examiner believes that the front panel controller of Ostby is structural equivalent to the term ultrathin client as it is currently being used and/or configured, and Ostby does not teach that the front panel controller includes all types of intelligence, however, Ostby fails to teach that the front panel controller is an ultrathin client and that the ultrathin client lacks built-in intelligence.

It is for the reasons set for above as well as the prior art discovered below that the examiner is unable to make a determination of non-obviousness regarding the ultrathin client that

Art Unit: 2125

lacks built-in intelligence.

Referring to claim 1, Yarita teaches analogous art (Abstract; Col. 26, lines 14-16), with a thin client included in the *at least one* machine tool *or* production machine (Fig. 1A; Col. 21, line 50 – Col. 22, line 9), wherein said thin client is lacking built-in intelligence (Col. 1, lines 40- Col. 2, line 16; Col. 22, line 10- Col. 23, line 50; Col. 25, line 13 – Col. 25, line 56; Col. 26, lines 30-40).

Yarita clearly teaches in at least one embodiment, that a controller connected to the machine (Col. 23, lines 13-17; Fig. 1A, CB) is lacking several computers, such as personal computers (See Fig. 1A). Furthermore, Yarita clearly teaches data from the computers is downloaded to the machine by way of the controller and the arrangement of the controller and the machine permits the machine to operate independently of the host computer and the network of individual personal computers (Col. 2, lines 5-16; Col. 23, lines 29-35). Yarita clearly teaches the arrangement “enclosed with a broken line in the figure” (Col. 23, lines 29-35; Fig. 1A).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the machine control of Ostby with the thin client lacking built-in intelligence of Yarita.

One of ordinary skill in the art would have been motivated to combine these references because Yarita teaches an arrangement wherein integrated data is downloaded to the machine by way of the controller, wherein said arrangement permits the machine to operate independently of a host computer and network of individual personal computers. Yarita clearly teaches that this independence makes it possible to employ distributed processing after the data are downloaded from the personal computers (Col. 23, lines 13-35).

6. Claims 1, 3, 4, 6, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,380,796 to Ostby in view of U.S. Pub. No. 2002/0133634 to Bieber.

Referring to claim 1, Ostby teaches a device for controlling *at least one* machine tool *or* production machine (Col. 1, lines 7-10), comprising:

at least one hand-held device located remote from the *at least one* machine tool *or* production machine and producing control signals for controlling operation of the *at least one* machine tool *or* production machine (Col. 1, lines 63-65; Col. 1, lines 37-49);

a front panel controller included in the *at least one* machine tool *or* production machine (Fig. 1, element 26; Fig. 2) for converting the control signals from the *at least one* handheld device into bus telegrams which include data for controlling drive components of the *at least one* machine tool *or* production machine (Fig. 2, element 58, Col. 4, lines 56 – Col. 5, line 5); and

at least one bus system connecting the *at least one* handheld device with the front panel controller to transmit the data and the control signals between the *at least one* handheld device and the front panel controller (Fig. 1, element 14; Col. 4, lines 56- Col. 5, line 5).

Referring to claim 9, Ostby teaches a central electric supply unit that supplies energy to the machines (Col. 13, lines 9-20).

Ostby teaches all of the limitations set forth above and the examiner believes that the front panel controller of Ostby is structural equivalent to the term ultrathin client as it is currently being used and/or configured, and Ostby does not teach that the front panel controller includes all types of intelligence, however, Ostby fails to teach that the front panel controller is an ultrathin client and that the ultrathin client lacks built-in intelligence.

Art Unit: 2125

Referring to claims 3, 4, 6, 7, Ostby teaches all of the limitations set forth above, however, Ostby fails to teach the bus system is implemented at an Ethernet bus system, the bus system comprises a secure wireless connection, the handheld device processes the control functions of several machine tools or processing machines in parallel, and there are at least two handheld devices for processing the control functions.

However, referring to claim 1, Bieber teaches analogous art (Abstract), with a thin client included in an automated production plant (Page 1, paragraph 10), wherein said thin client is lacking built-in intelligence (Page 1, paragraph 10).

Referring to claims 3, 4, 6, 7, Bieber teaches the bus system is implemented at an Ethernet bus system (Page 1, paragraph 10), the bus system comprises a secure wireless connection (page 2, paragraph 18), the handheld device processes the control functions of several machine tools or processing machines in parallel (Page 1, paragraph 12), and there are at least two handheld devices for processing the control functions (Page 2, paragraphs 17-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the machine control of Ostby with the thin client lacking built-in intelligence of Bieber.

One of ordinary skill in the art would have been motivated to combine these references because Bieber teaches operator communication and monitoring systems for an automated production plant using a Human Machine Interface (HMI) system, wherein it has become common in production plant operations to use so-called "Client Server" technologies to enable several operators to monitor and, if necessary, operate a production plant simultaneously, wherein the server performs the entire numerical control, and also establishes the connection via

Art Unit: 2125

the process data highway to the automation devices, and receives, processes and archives the transmitted process data, wherein the distributed communication and monitoring system permits simultaneous installation and upgrades to all clients, wherein the distributed communication and monitoring system increases efficiency and reduces costs associated with system installation and maintenance, wherein the distributed communication and monitoring system permits software deployment on a variety of hardware and operating system configurations, wherein a control program is provided on a network server, and a plurality of parallel instances of the control program are deployed to a respective plurality of thin client terminals over a network such that a process is then independently controlled from each of the plurality of thin client terminals, thereby providing multiple terminal server-client operation (Page 1, paragraphs 2-6).

Furthermore, Bieber teaches the flying terminal allows the user to access all communications and monitoring functions and thereby analyze the signal paths or faults more cost effectively, without relying on another system driver on the server. Furthermore, the flying terminals allow operators to control the machines and change the process/production while standing in front of the machines or can repair the machines while consulting the screen on the flying terminal (Page 2, paragraphs 17-18).

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,380,796 to Ostby in view of U.S. Pat. No. 4,943,927 to Yarita or U.S. Pub. No. 2002/0133634 to Bieber.

Referring to claim 10, Ostby teaches a device for controlling *at least one* machine tool *or* production machine (Col. 1, lines 7-10), comprising:

at least one hand-held device located remote from the *at least one* machine tool *or* production machine and producing control signals for controlling operation of the *at least one* machine tool *or* production machine (Col. 1, lines 63-65; Col. 1, lines 37-49);

a front panel controller included in the *at least one* machine tool *or* production machine (Fig. 1, element 26; Fig. 2) for converting the control signals from the *at least one* handheld device into bus telegrams which include data for controlling drive components of the *at least one* machine tool *or* production machine (Fig. 2, element 58, Col. 4, lines 56 – Col. 5, line 5); and

at least one bus system connecting the *at least one* handheld device with the front panel controller to transmit the data and the control signals between the *at least one* handheld device and the front panel controller (Fig. 1, element 14; Col. 4, lines 56- Col. 5, line 5).

Ostby teaches all of the claim limitations set forth above, and further teaches that because machine tool vibration and heat may damage the control system digital computer and associated control circuitry, it is often necessary to physically separate the machine tool control system from the machine tool, and as a result remote controls have been developed for controlling machine tool operations distal from the machine tool control system, wherein typically such remote controls include a set of input/output devices mounted in a small hand-held box, and coupled to the machine tool control system by a heavy multi-conductor cable (Col. 1, lines 7-49).

However, Ostby fails to teach that the control signals produced from the handheld device located remote from the machine are the only control signals used to control the operation of the machine. Furthermore, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of

Art Unit: 2125

performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).

However, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the teachings of Ostby such that the control signals produced from the handheld device located remote from the machine are the only control signals used to control the operation of the machine. One of ordinary skill in the art would have been motivated to combine these references because Ostby teaches that because machine tool vibration and heat may damage the control system digital computer and associated control circuitry, it is often necessary to physically separate the machine tool control system from the machine tool, and as a result remote controls have been developed for controlling machine tool operations distal from the machine tool control system, wherein typically such remote controls include a set of input/output devices mounted in a small hand-held box, and coupled to the machine tool control system by a heavy multi-conductor cable (Col. 1, lines 7-49).

Ostby teaches all of the limitations set forth above and the examiner believes that the front panel controller of Ostby is structural equivalent to the term ultrathin client as it is currently being used and/or configured, and Ostby does not teach that the front panel controller includes all types of intelligence, however, Ostby fails to teach that the front panel controller is an ultrathin client and that the ultrathin client lacks built-in intelligence. It is for the reasons set forth above as well as the prior art discovered below that the examiner is unable to make a determination of non-obviousness, regarding the ultrathin client that lacks built-in intelligence.

However, referring to claim 10, Yarita teaches analogous art (Abstract; Col. 26, lines 14-16), with a thin client included in the *at least one* machine tool *or* production machine (Fig. 1A; Col. 21, line 50 – Col. 22, line 9), wherein said thin client is lacking built-in intelligence (Col. 1, lines 40- Col. 2, line 16; Col. 22, line 10- Col. 23, line 50; Col. 25, line 13 – Col. 25, line 56; Col. 26, lines 30-40).

Yarita clearly teaches in at least one embodiment, that a controller connected to the machine (Col. 23, lines 13-17; Fig. 1A, CB) is lacking several computers, such as personal computers (See Fig. 1A). Furthermore, Yarita clearly teaches data from the computers is downloaded to the machine by way of the controller and the arrangement of the controller and the machine permits the machine to operate independently of the host computer and the network of individual personal computers (Col. 2, lines 5-16; Col. 23, lines 29-35). Yarita clearly teaches the arrangement “enclosed with a broken line in the figure” (Col. 23, lines 29-35; Fig. 1A).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the machine control of Ostby with the thin client lacking built-in intelligence of Yarita.

One of ordinary skill in the art would have been motivated to combine these references because Yarita teaches an arrangement wherein integrated data is downloaded to the machine by way of the controller, wherein said arrangement permits the machine to operate independently of a host computer and network of individual personal computers. Yarita clearly teaches that this independence makes it possible to employ distributed processing after the data are downloaded from the personal computers (Col. 23, lines 13-35).

However, referring to claim 10, Bieber also teaches analogous art (Abstract), with a thin client included in an automated production plant (Page 1, paragraph 10), wherein said thin client is lacking built-in intelligence (Page 1, paragraph 10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the machine control of Ostby with the thin client lacking built-in intelligence of Bieber.

One of ordinary skill in the art would have been motivated to combine these references because Bieber teaches operator communication and monitoring systems for an automated production plant using a Human Machine Interface (HMI) system, wherein it has become common in production plant operations to use so-called "Client Server" technologies to enable several operators to monitor and, if necessary, operate a production plant simultaneously, wherein the server performs the entire numerical control, and also establishes the connection via the process data highway to the automation devices, and receives, processes and archives the transmitted process data, wherein the distributed communication and monitoring system permits simultaneous installation and upgrades to all clients, wherein the distributed communication and monitoring system increases efficiency and reduces costs associated with system installation and maintenance, wherein the distributed communication and monitoring system permits software deployment on a variety of hardware and operating system configurations, wherein a control program is provided on a network server, and a plurality of parallel instances of the control program are deployed to a respective plurality of thin client terminals over a network such that a process is then independently controlled from each of the plurality of thin client terminals,

Art Unit: 2125

thereby providing multiple terminal server-client operation (Page 1, paragraphs 2-6).

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 4,380,796 to Ostby in view of U.S. Pat. No. 4,943,927 to Yarita or U.S. Pub. No. 2002/0133634 to Bieber as applied to claim 1 above, and further in view of U.S. Pat. No. 5,561,770 to de Bruijn.

Referring to claim 2, Ostby teaches all of the limitations set forth above, however fails to teach the bus system is configured as a redundant and secure bus system.

However, referring to claim 2, de Bruijn teaches analogous art (Col. 1, lines 17-27), wherein the bus system is configured as a redundant and secure bus system (Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to modify the teachings of Ostby with the teachings of de Bruijn. One of ordinary skill in the art would have been motivated to combine these references because de Bruijn teaches a secure communication system which enables an actively redundant process control computer to receive a revised operating program without adversely affecting the operation of another actively redundant process control computer (Col. 2, lines 38-64). Furthermore, de Bruijn teaches a communications system capable of utilizing a plurality of different communication protocols and encryptions techniques depending on the type of message being transmitted (Col. 2, lines 59-64).

Response to Arguments

9. Applicant's arguments with respect to claims 1-4, 6, 7, 9 and 10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art or art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents or publications are cited to further show the state of the art with respect to a thin client used with industrial equipment.

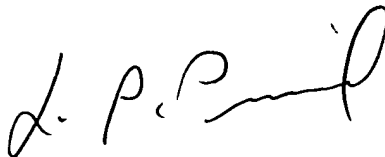
U.S. Pat. No. 5,150,288 to Imai.

U.S. Pub. No. 2005/0021839 to Russell.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571) 272-3754. The examiner can normally be reached on 9:30am-6:00pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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LEO PICARD
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Application/Control Number: 10/774,056

Page 16

Art Unit: 2125

Sean P. Shechtman

August 16, 2005